LISTING OF CLAIMS

Please amend the claims of the present application as set forth below. More specifically, a detailed listing of all claims has been provided. This listing of claims will replace all prior versions and listings of claims in the application. Changes to the claims are shown by strikethrough or double brackets (for deleted matter) and underlining (for added matter).

Upon entry of this Response, claims 1-6, 8-15, 17-30, and 32-50 will be pending. More specifically, the status of the claims will be as indicated below:

a) Claims 1, 9, 24, 27, and 29 are currently amended;

b) Claims 2-6, 10-15, 26, and 28 are original;

c) Claims 8, 17-23, 25, 30, 32-50 were previously presented; and

d) Claims 7, 16, and 31 are canceled.

Listing of Claims

1. (Currently amended) A server system, comprising:

one or more computers;

an application executing on the computers to receive and process client requests; and

a constraint system to constrain operation of the application according to multiple different constraints, the constraint system comprising a hierarchy of constraint layers, with each constraint layer containing a set of one or more constraints that customize operation of the application, wherein the constraint layers in the hierarchy have different respective priorities associated therewith,

wherein the constraint layers are organized within the hierarchy to provide a relation between a first constraint layer and a lower-priority second constraint layer such

that the first constraint layer precludes behavior defined by the second constraint layer if the behavior of the second constraint layer conflicts with behavior defined by the first constraint layer, but the second constraint layer does not constrain the first constraint layer, wherein the relation between the first constraint layer and the second constraint layer holds even when the first constraint layer is applied prior to the second constraint layer.

2. (Original) A server system as recited in claim 1, wherein the hierarchy comprises a constraint layer that contains legally mandated constraints to constrain operation of application according to legal principles.

3. (Original) A server system as recited in claim 1, wherein the hierarchy comprises a constraint layer that contains company-mandated constraints to constrain operation of the application according to preferences of a company that operates the application.

4. (Original) A server system as recited in claim 1, wherein the hierarchy comprises a constraint layer that contains customer constraints to constrain operation of the application according to preferences of customers.

5. (Original) A server system as recited in claim 1, wherein the hierarchy comprises a constraint layer that contains cultural constraints to constrain operation of the application according to cultural aspects.

6. (Original) A server system as recited in claim 1, wherein the hierarchy comprises a constraint layer that contains end user constraints to constrain operation of the application according to preferences of an end user.

7. (Canceled).

8. (Previously presented) A server system as recited in claim 1, further comprising a constraint resolver to resolve the constraint layers so that operation of the application is constrained by a sum of the constraints in the layers, wherein the constraint resolver is configured to reconcile any conflicts among constraints imposed by different constraint layers.

9. (Currently amended) A server system comprising:

one or more computers; and

a multi-layer application executing on the computers to handle client requests, the multi-layer application comprising:

a problem-solving logic layer to process the client requests according to an associated problem domain, the problem-solving logic layer containing one or more execution models to perform various sets of tasks when processing the client requests, the problem-solving logic layer producing replies to the client requests;

a presentation layer to structure the replies produced by the problem-solving logic layer in a manner that makes the replies presentable on various client devices; and

a constraint hierarchy of multiple constraint layers, each constraint layer containing a set of one or more constraints that specify how the replies should be

structured to customize the replies for specific sets of conditions, wherein the constraint layers in the hierarchy have different respective priorities associated therewith,

wherein the constraint layers are organized within the hierarchy to provide a relation between a first constraint layer and a lower-priority second constraint layer such that the first constraint layer precludes behavior defined by the second constraint layer if the behavior of the second constraint layer conflicts with behavior defined by the first constraint layer, but the second constraint layer does not constrain the first constraint layer, wherein the relation between the first constraint layer and the second constraint layer holds even when the first constraint layer is applied prior to the second constraint layer.

10. (Original) A server system as recited in claim 9, wherein constraint layers can be selectively added or removed from the constraint hierarchy independently of other layers in the multi-layer application to produce different sets of constraints.

11. (Original) A server system as recited in claim 9, wherein the constraint hierarchy comprises a constraint layer that contains legally mandated constraints that constrain the presentation layer to structure the replies to comply with certain legal principles.

12. (Original) A server system as recited in claim 9, wherein the constraint hierarchy comprises a constraint layer that contains company-mandated constraints that constrain the presentation layer to structure the replies according to preferences of a company that operates the application.

13. (Original) A server system as recited in claim 9, wherein the constraint hierarchy comprises a constraint layer that contains customer-oriented constraints that constrain the presentation layer to structure the replies according to preferences of customers.

14. (Original) A server system as recited in claim 9, wherein the constraint hierarchy comprises a constraint layer that contains cultural constraints that constrain the presentation layer to structure the replies according to cultural aspects.

15. (Original) A server system as recited in claim 9, wherein the constraint hierarchy comprises a constraint layer that contains end user constraints that constrain the presentation layer to structure the replies according to preferences of end users.

16. (Canceled).

17. (Previously presented) One or more computer-readable media comprising computer-executable instructions that, when executed, implement a computer software architecture on one or more computers, the architecture comprising:

a constraint hierarchy of multiple constraint layers, each constraint layer containing a set of one or more constraints that constrain operation of an application, the constraint layers being organized within the constraint hierarchy such that a first constraint layer limits a second constraint layer but the second constraint layer does not limit the first constraint layer; and

a constraint resolver to resolve the constraint layers so that operation of the application is constrained by a set of the constraints in the constraint layers, wherein the

constraint resolver is configured to reconcile any conflicts among constraints imposed by different constraint layers.

18. (Previously presented) The one or more computer-readable media as recited in claim 17, wherein constraint layers are selectively added to or removed from the constraint hierarchy to form different sets of constraints on the operation of the application.

19. (Previously presented) The one or more computer-readable media as recited in claim 17, wherein the constraint hierarchy comprises a constraint layer that contains legally mandated constraints to constrain operation of the application according to legal principles.

20. (Previously presented) The one or more computer-readable media as recited in claim 17, wherein the constraint hierarchy comprises a constraint layer that contains company-mandated constraints to constrain operation of the application according to preferences of a company that operates the application.

21. (Previously presented) The one or more computer-readable media as recited in claim 17, wherein the constraint hierarchy comprises a constraint layer that contains customer constraints to constrain operation of the application according to preferences of customers.

22. (Previously presented) The one or more computer-readable media as recited in claim 17, wherein the constraint hierarchy comprises a constraint layer that contains cultural constraints to constrain operation of the application according to cultural aspects.

23. (Previously presented) The one or more computer-readable media as recited in claim 17, wherein the constraint hierarchy comprises a constraint layer that contains end user constraints to constrain operation of the application according to preferences of an end user.

24. (Currently amended) A method implemented on one or more computers comprising:

storing a hierarchy of constraints, each constraint being configured to constrain operation of a server application, wherein the constraints in the hierarchy have different respective priorities associated therewith; and

evaluating an operation of the server application in view of the hierarchy of constraints to modify operation according to the constraints in the hierarchy,

wherein the constraints are organized within the hierarchy to provide a relation between a first constraint and a lower-priority second constraint such that the first constraint precludes behavior defined by the second constraint if the behavior of the second constraint conflicts with behavior defined by the first constraint, but the second constraint does not constrain the first constraint, wherein the relation between the first constraint and the second constraint holds even when the first constraint is applied prior to the second constraint.

25. (Previously presented) A method as recited in claim 24, further comprising adding or removing constraints from the hierarchy to alter the server application.

26. (Original) A method as recited in claim 24, wherein the hierarchy of constraints comprises constraints selected from a group of constraints comprising:

legally mandated constraints to constrain operation of the application according to legal principles;

company-mandated constraints to constrain operation of the application according to preferences of a company that operates the application;

customer constraints to constrain operation of the application according to preferences of customers;

cultural constraints to constrain operation of the application according to cultural aspects; and

end user constraints to constrain operation of the application according to preferences of an end user.

27. (Currently amended) A method for operating a server application, comprising:

receiving requests from multiple clients;

processing the requests to produce replies;

structuring the reply to define how the reply will appear when presented at the client; and

constraining said structuring according to a hierarchy of plural constraints to customize appearance of the reply, wherein the constraints in the hierarchy have different respective priorities associated therewith, wherein the constraints are organized within the hierarchy to provide a relation between a first constraint and a lower-priority second

constraint such that the first constraint precludes behavior defined by the second constraint if the behavior of the second constraint conflicts with behavior defined by the first constraint, but the second constraint does not constrain the first constraint, wherein the relation between the first constraint and the second constraint holds even when the first constraint is applied prior to the second constraint, the constraints comprising one or more of:

legally mandated constraints to constrain appearance of the reply according to legal principles;

company-mandated constraints to constrain appearance of the reply according to preferences of a company that operates the application;

customer constraints to constrain appearance of the reply according to preferences of customers;

cultural constraints to constrain appearance of the reply according to cultural aspects; and

end user constraints to constrain appearance of the reply according to preferences of an end user.

28. (Original) A method as recited in claim 27, further comprising adding or removing constraints to change the set of constraints being applied to the structuring of the reply.

29. (Currently amended) One or more computer-readable media comprising computer-executable instructions that, when executed, direct an application server to:

generate replies in response to client requests; and

structure the replies according to a hierarchy of constraints to customize the replies, wherein the constraints in the hierarchy have different respective priorities associated therewith, wherein the constraints are organized within the hierarchy to provide a relation between a first constraint and a lower-priority second constraint such that the first constraint precludes behavior defined by the second constraint if the behavior of the second constraint conflicts with behavior defined by the first constraint, but the second constraint does not constrain the first constraint, wherein the relation between the first constraint and the second constraint holds even when the first constraint is applied prior to the second constraint, the constraints comprising a combination of one or more following constraints:

legally mandated constraints to constrain appearance of a reply according to legal principles;

company-mandated constraints to constrain appearance of the reply according to preferences of a company that operates the application;

customer constraints to constrain appearance of the reply according to preferences of customers;

cultural constraints to constrain appearance of the reply according to cultural aspects; and

end user constraints to constrain appearance of the reply according to preferences of an end user.

30. (Previously presented) A server system as recited in claim 1, wherein the constraints are expressed as metadata.

31. (Canceled).

32. (Previously presented) A server system as recited in claim 1, wherein the constraints define presentation aspects of a reply sent to a customer.

33. (Previously presented) A server system as recited in claim 1, wherein each constraint layer represents a different source entity that customizes the application.

34. (Previously presented) A server system as recited in claim 9, wherein each constraint layer represents a different source entity that customizes the application.

35. (Previously presented) The one or more computer-readable media as recited in claim 17, wherein each constraint layer represents a different source entity that customizes the application.

36. (Previously presented) A method as recited in claim 24, wherein the hierarchy includes multiple constraint layers, and wherein each constraint layer represents a different source entity that customizes the application.

37. (Previously presented) A method as recited in claim 27, wherein the constraints are associated with a hierarchy having multiple constraint layers, and wherein each constraint layer represents a different source entity that customizes the application.

38. (Previously presented) The one or more computer-readable media of claim 29, wherein the hierarchy includes multiple constraint layers, and wherein each constraint layer represents a different source entity that customizes the application.

39. (Previously presented) A server system as recited in claim 1, wherein the hierarchy comprises each of:

a constraint layer that contains legally mandated constraints to constrain operation of application according to legal principles;

a constraint layer that contains company-mandated constraints to constrain operation of the application according to preferences of a company that operates the application;

a constraint layer that contains customer constraints to constrain operation of the application according to preferences of customers;

a constraint layer that contains cultural constraints to constrain operation of the application according to cultural aspects;

a constraint layer that contains end user constraints to constrain operation of the application according to preferences of an end user.

40. (Previously presented) A server system as recited in claim 9, wherein the constraint hierarchy comprises each of:

a constraint layer that contains legally mandated constraints that constrain the presentation layer to structure the replies to comply with certain legal principles;

a constraint layer that contains company-mandated constraints that constrain the presentation layer to structure the replies according to preferences of a company that operates the application;

a constraint layer that contains customer-oriented constraints that constrain the presentation layer to structure the replies according to preferences of customers;

a constraint layer that contains cultural constraints that constrain the presentation layer to structure the replies according to cultural aspects; and

a constraint layer that contains end user constraints that constrain the presentation layer to structure the replies according to preferences of end users.

41. (Previously presented) The one or more computer-readable media as recited in claim 17, wherein the constraint hierarchy comprises each of:

a constraint layer that contains legally mandated constraints to constrain operation of the application according to legal principles;

a constraint layer that contains company-mandated constraints to constrain operation of the application according to preferences of a company that operates the application;

a constraint layer that contains customer constraints to constrain operation of the application according to preferences of customers;

a constraint layer that contains cultural constraints to constrain operation of the application according to cultural aspects; and

a constraint layer that contains end user constraints to constrain operation of the application according to preferences of an end user.

42. (Previously presented) A method as recited in claim 24, wherein the hierarchy of constraints comprises each of:

legally mandated constraints to constrain operation of the application according to legal principles;

company-mandated constraints to constrain operation of the application according to preferences of a company that operates the application;

customer constraints to constrain operation of the application according to preferences of customers;

cultural constraints to constrain operation of the application according to cultural aspects; and

end user constraints to constrain operation of the application according to preferences of an end user.

43. (Previously presented) A method as recited in claim 27, wherein the constraints comprise each of the legally mandated constraints, the company-mandated constraints, the customer constraints, the cultural constraints, and the end user constraints.

44. (Previously presented) The one or more computer-readable media of claim 29, wherein the constraints comprise each of the legally mandated constraints, the company-mandated constraints, the customer constraints, the cultural constraints, and the end user constraints.

45. (Previously presented) A server system as recited in claim 39, wherein the constraint hierarchy orders the constraints from highest priority to lowest priority in an order defined by: 1) the legally mandated constraints; 2) the company-mandated constraints; 3) the customer constraints; 4) the cultural constraints; and 5) the end user constraints.

46. (Previously presented) A server system as recited in claim 40, wherein the constraint hierarchy orders the constraints from highest priority to lowest priority in an

order defined by: 1) the legally mandated constraints; 2) the company-mandated constraints; 3) the customer constraints; 4) the cultural constraints; and 5) the end user constraints.

47. (Previously presented) The one or more computer-readable media as recited in claim 41, wherein the constraint hierarchy orders the constraints from highest priority to lowest priority in an order defined by: 1) the legally mandated constraints; 2) the company-mandated constraints; 3) the customer constraints; 4) the cultural constraints; and 5) the end user constraints.

48. (Previously presented) A method as recited in claim 42, wherein the constraint hierarchy orders the constraints from highest priority to lowest priority in an order defined by: 1) the legally mandated constraints; 2) the company-mandated constraints; 3) the customer constraints; 4) the cultural constraints; and 5) the end user constraints.

49. (Previously presented) A method as recited in claim 43, wherein the constraint hierarchy orders the constraints from highest priority to lowest priority in an order defined by: 1) the legally mandated constraints; 2) the company-mandated constraints; 3) the customer constraints; 4) the cultural constraints; and 5) the end user constraints.

50. (Previously presented) The one or more computer-readable media of claim 44, wherein the constraint hierarchy orders the constraints from highest priority to lowest priority in an order defined by: 1) the legally mandated constraints; 2) the company-mandated constraints; 3) the customer constraints; 4) the cultural constraints; and 5) the end user constraints.